THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS

WORLDS, INC.,)	
)	
Plaintiff,)	
)	
v.)	Civil Action No. 1:12-CV-10576 (DJC)
)	
ACTIVISION BLIZZARD, INC.,)	
BLIZZARD ENTERTAINMENT, INC.)	
and ACTIVISION PUBLISHING, INC.,)	
)	
Defendants.)	
)	

WORLDS, INC'S OPPOSITION TO DEFENDANTS'
MOTION FOR SUMMARY JUDGMENT UNDER 35 U.S.C. § 101

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INTRODUCTION

Activision's Motion for Summary Judgment of ineligibility under 35 U.S.C. § 101 over-simplifies the subject matter of Worlds' asserted patents and misapprehends what is claimed. Properly understood, the asserted Worlds claims constitute patent-eligible subject matter because they provide particular computer network architectures for multiplayer 3-D virtualized worlds that solve a problem unaddressed by prior computer network architectures: given limited network bandwidth and varying processing capabilities of users' computers, how can a plurality of remote users interact seamlessly in a complex 3-D environment?

As a solution, the Worlds patents teach a specific approach to client-server interactions that define how avatar position and state information is processed and communicated, at both the client side and server side of a network. The claims make no attempt to cover an abstract principle that exists independently of computers, or to implement an abstract principle over the Internet or on a general purpose computer. Rather, the challenges posed, and the improvements taught, exist specifically in the realm of network computing used to enable avatar interaction in virtual worlds. That ends the § 101 inquiry: the asserted claims are not directed to an unpatentable abstract idea, but rather to improved technology, which makes them directed to eligible subject matter.

Although Activision represented to the Court that "in view of intervening law since 2015, the Court should determine a schedule for supplementing the briefing on Activision's pending motion under 35 U.S.C. § 101 (Dkt. No. 174)," (Dkt. 242 at 6), Activision's Motion provides little analysis of the Federal Circuit's intervening § 101 jurisprudence. While addressing step one of the *Alice* test,[1] Activision cites to, but does not analyze, only one precedential Federal Circuit decision,

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[1] Worlds refers to the patent eligibility test as the *Alice* test, after *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208 (2014). Activision calls this the "*Mayo / Alice*" test. *See, e.g.*, Dkt. 273 ("Mem.") at 10, 13.

Elec. Power Grp., LLC v. Alstom S.A., 830 F.3d 1350 (Fed. Cir. 2016). But unlike the Worlds claims, the claims in *Electric Power* were directed to using computers to collect, analyze, and display power grid information, rather than improving the functionality of computer and network technology. Perhaps because no comparison exists, Activision instead focuses its step one analysis on two district court cases, one of which was decided before the *Alice* test was even announced.

While the Court can (and should) deny Activision's Motion without reaching step two of the *Alice* test, the asserted claims also satisfy this step by teaching—at least as an ordered combination—the inventive concept of culling avatar position and state data at multiple levels of a client-server computer network architecture. Indeed, contemporaneous articles addressing the Worlds system, the specification itself, and Worlds' success in defending its claims in *inter partes* review show an inventive concept that improved upon computer network architecture for 3-D virtual worlds. Moreover, recent Federal Circuit case law, which Activision ignores, has made clear that "[t]he question of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field [in step 2 of *Alice*] is a question of fact" and "must be proven by clear and convincing evidence." *Berkheimer v. HP, Inc.*, 881 F.3d 1360, 1368 (Fed. Circ. 2018). Activision presents no such evidence, and fails to demonstrate that any Worlds claim recites an "element or combination of elements" that is "well-understood, routine and conventional to a skilled artisan in the relevant field." *Id.*

BACKGROUND

I.   Worlds, Inc.

Worlds, Inc. was an original innovator in the field of internet-based, multiplayer, 3-D virtual worlds. Exs. M, N, O, P.[2] In the mid-1990s, Worlds developed and released two groundbreaking

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[2] Lettered exhibits refer to the exhibits to the attached Declaration of Wayne M. Helge.

programs—*Worlds Chat* and *AlphaWorld*—that enabled remote users to chat, over the internet, in

graphically-rich 3-D virtual environments. Ex. L ¶¶ 9–10. Released in 1995, *Worlds Chat* was

acclaimed in the press as "the hottest innovation the Internet will see this year," and deemed

noteworthy for "the potential it brings to cyberspace." Ex. N. The *San Francisco Examiner* called

Worlds Chat "one of the first examples of virtual reality on the Internet." Ex. M. Worlds also drew

the attention of Steven Spielberg, who announced a partnership with Worlds and other entities to

"create a 3-D environment where hospitalized children can play and socialize with each other." *Id.*

In connection with these developments, four Worlds employees discovered novel solutions to

technical limitations present in prior computer network architectures relating to 3-D virtual worlds.[3]

These solutions were disclosed in the patents-in-suit, assigned to Worlds, Inc.

II.   Patents-in-Suit

The patents-in-suit are U.S. Patent Nos. 7,181,690 (the "'690 Patent"); 7,493,558 (the "'558

Patent"); 7,945,856 (the "'856 Patent"); 8,082,501 (the "'501 Patent"); and 8,145,998 (the "'998

Patent"). They share a common specification and are all titled "System and Method for Enabling

Users to Interact in a Virtual Space." These patents tackle a problem present in implementing

networked 3-D virtual worlds: how to enable interaction among an unknown number of remote users

in a 3-D world, given uncertain limitations in network capacity and varying processing capabilities of

client computers. Ex. A ('690 Pat.), 1:14–2:20.

The asserted claims are directed to implementing a novel computer network architecture,

including improved protocols to facilitate more efficient client-server interaction. *Id.,* 2:24–42. The

computer network architecture explains how the positions and actions of avatars are communicated

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[3] A "computer network architecture" can be defined as the "logical structure and the operating
principles, including those concerning services, functions, and protocols, of a computer network."
Ex. Q.

to other users and processed. *Id.,* 3:47–6:51. Under this architecture both a client and server cull data associated with other users' avatars to preserve bandwidth, reduce processing burdens, and enhance user experience. *Id.,* 19:32–22:23. The features of exemplary Claim 4 of the '690 Patent (reproduced in Mem. at 9) include (1) a user in a virtual world (represented by a 3-D avatar), (2) associated with a client process, that (3) monitors and sends position information to a server. Accounting for network restrictions, the server (4) filters the received avatar information, and (5) sends to a client the position information for less than all the other users' avatars. Finally, from the information received from the server, the client (6) determines whether to display avatars for which it has received position information according to its criteria, and (7) displays avatars as relevant.[4]

LEGAL STANDARD

I.   35 U.S.C. § 101

Patent protection is available for "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof …." 35 U.S.C. § 101. While laws of nature, natural phenomena, and abstract ideas cannot be patented, *see Alice*, 573 U.S. at 216, the Supreme Court has cautioned courts to "tread carefully in construing [§ 101's] exclusionary principle lest it swallow all of patent law," because "[a]t some level, 'all inventions … embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.'" *Id.* at 217 (quoting *Mayo Collaborative Servs. v. Prometheus Labs.*, 566 U.S. 66, 71 (2012)).

To determine patent eligibility, the Supreme Court has created a two-step "framework for distinguishing patents that claim … abstract ideas from those that claim patent-eligible applications

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[4] The asserted claims also cover other innovations, including: (1) avatar customization ('501 Pat., Cl. 1); (2) application of "conditions"/"participant conditions," which affect server-selected updates of avatars for transmission ('501 Pat., Cl. 1, '998 Pat., Cl. 18); and (3) criteria used by the client to determine which other avatars to display ('690 Pat.; '558 Pat.; '501 Pat., Cl. 8, 10).

of those concepts." *Alice*, 573 U.S. at 217. Under the first step, a court "determine[s] whether the claims at issue are directed to one of those patent-ineligible concepts." *Id.* Courts should "ask whether the claims are directed to an improvement to computer functionality versus being directed to an abstract idea, even at the first step of the *Alice* analysis." *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016). If a court determines that the claims are directed to patent-ineligible concepts, the second step is to "consider the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Alice*, 573 U.S. at 217 (quoting *Mayo*, 566 U.S. at 79). "The question [under the second step] of whether a claim element or combination of elements is well-understood, routine and conventional to a skilled artisan in the relevant field is a question of fact." *Berkheimer v. HP, Inc.*, 881 F.3d 1360, 1368 (Fed. Circ. 2018).

II. Summary Judgment, Presumption of Validity, and the Burden of Proof

Summary judgment is only appropriate if "there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(a). Further, patents are presumed valid (35 U.S.C. § 282) and this presumption applies to challenges under 35 U.S.C. § 101. *See CLS Bank Int'l v. Alice Corp. Pty.*, 717 F.3d 1269, 1304–05 (Fed. Cir. 2014). As the party challenging the eligibility of Worlds' patents under § 101, Activision's entire challenge fails if it cannot prove "[a]ny fact … that is pertinent to the invalidity conclusion … by clear and convincing evidence." *Berkheimer*, 881 F.3d at 1368.

<div align="center">ARGUMENT</div>

When accurately evaluated under *Alice* step one, Worlds' claims are patent-eligible because they are directed to a specific computer network architecture for 3-D virtual worlds and overcome problems present in prior computer network architectures. Should the Court evaluate *Alice* step two, Worlds' claims also recite inventive concepts to define how computer network architectures enable

interaction of avatars in a virtual space, and thereby achieve specific improvements to such systems.

I.   Step One: Worlds' Patents Are Not "Directed To" a Patent-Ineligible Abstract Idea

The question under step one is whether the asserted claims are "directed to" a patent-ineligible concept. *Alice*, 573 U.S. at 218. While Activision later admits that "Worlds' claims are directed to the interaction of avatars with positions and orientations in a virtual space, operating in a client-server network," (Mem. at 13), Activision argues in step one that the asserted claims are directed to the abstract idea of "filtering." Mem. at 10. This is wrong. Interpreted correctly, Worlds' claims are directed to a novel client-server computer network architecture for 3-D virtual worlds.[5]

A. A claim satisfies § 101 when it improves computer technology by solving a computer-based problem

The first step of the *Alice* test includes determining whether the claims are directed to an abstract idea. *Alice*, 573 U.S. at 217. Evaluating computer technology, courts have declared claims ineligible where they use a computer or the Internet to perform longstanding practices, *e.g.*, risk hedging or intermediated settlement. *See, e.g.*, *buySAFE v. Google*, 765 F.3d 1350, 1355 (Fed. Cir. 2014). On the other hand, claims that "effect an improvement in [some] technology or technical field" are not impacted by the abstract-idea exclusion. *Alice*, 573 U.S. at 225; *see also Research Corp. Techs. v. Microsoft*, 627 F.3d 859, 868–69 (Fed. Cir. 2010) ("[I]nventions with specific applications or improvements to technologies … are not likely to be so abstract that they override the statutory language ... of the Patent Act").

As the Federal Circuit has explained, a computer-related claim satisfies § 101 if "the claimed solution is *necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks*." *DDR Holdings, LLC v. Hotels.com, L.P.*,

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[5] While Activision divides the asserted Worlds patents into two groups, Activision's analysis of both groups is functionally identical. *Compare* Mem., 10-16 with 19-20.

773 F.3d 1245, 1257 (Fed. Cir. 2014) (emphasis added). In line with this standard, courts have upheld computer patents that "stand apart because they do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet." *Id.* Indeed, the Federal Circuit's "precedent is clear that software can make patent-eligible improvements to computer technology, and related claims are eligible as long as they are directed to non-abstract improvements to the functionality of a computer or network platform itself." *Uniloc USA, Inc. v. LG Elecs. USA, Inc.*, 957 F.3d 1303, 1309 (Fed. Cir. 2020).

B. The asserted claims recite an improvement to computer technology by providing a novel computer network architecture for 3-D virtual worlds.

The Worlds claims teach a specific computer network architecture to enable multiple users to interact, via avatars, in a 3-D virtual world over the internet, and the specification confirms this teaching. The Court's claim construction order similarly explained that this case "involves patents that are *directed to* a client-server network that enables large numbers of computer users to interact in a 'virtual world' displayed on a computer screen." Dkt. 153 at 1; *see also, e.g.*, *id.* at 8 ("[T]he specification discloses an invention to solve the problem of 'crowd control.'"); *id.* at 20–23 (construing "avatar" as a "three-dimensional representation of a user," and noting that "the specification consistently refers to a three-dimensional virtual world").

The Problem. From the outset, Worlds' patents identify the problem to be solved. In "game playing, [ ] the positions and actions of each user need to be communicated between all the players to inform each client of the state changes (position, actions, etc.) which occurred at the other clients." '690 Pat., 1:49–53. But "where many client machines or processes are communicating with each other in real-time through the server, several problems arise." *Id.,* 1:37–40. For example, "where a client-server system is used for real-time exchange of information, such as a … virtual reality network where users … visually and aurally interact with other users … communication is much more difficult,

especially where the information is high-bandwidth data such as audio streams, graphic streams, and image streams." *Id.,* 1:42–48. This problem specifically arose in the realm of computer networks, *i.e.* in the operating protocols of prior computer network architectures.

In *DDR*, the Federal Circuit rejected a § 101 challenge where there was no real-world analogue to the "cyberspace" problem at issue. 773 F.3d at 1258. There, the problem was that a website may lose visitors who click a hyperlink and are transported to a third-party site. *Id*. The court could not identify a real-world equivalent: "there is … no possibility that by walking up to [a] kiosk, the customer will be suddenly and completely transported outside the … store and relocated to a separate physical venue associated with the third-party—the analog[ue] of what ordinarily occurs in 'cyberspace' after the simple click of a hyperlink." *Id*. Similarly, there is no real-world analogue to the problem addressed by Worlds' claimed computer network architecture, *i.e*., the risk that due to a large number of people in a room, one's consciousness may shut down, or people move erratically, stop talking, or disappear.

Worlds' Solution. Worlds was not the first to tackle the problem of remote user interaction. An earlier approach involved a "peer-to-peer" computer network architecture, where each user was considered equal and communicated directly with all other users. Ex. A ('690 Pat.), 1:56–59. But peer-to-peer communication imposed heavy processing loads and, as such, limited "the number of clients which can be connected to the network." *Id.,* 1:56–63. Another computer network architecture described in the background employed a server to "broadcast" information to all users, but as transmissions swelled in size, a broadcast approach was neither "efficient" nor "reliable" and, in an "open network[ ] such as the Internet … [was] not even possible." *Id.,* 1:63-2:16.

As an improved computer network architecture, Worlds' patents redefine how a server and a client are configured by establishing protocols that set forth the information exchanged between the

server and client, and requirements on how the client and server perform particular culling functions of avatars. *Id*., 5:19-6:20. These protocols are implemented to minimize network loads, reduce processing burdens, and thus facilitate interaction of remote users in a computer-based 3-D virtual world. *Id*. As such, the asserted claims describe a virtual world computer network architecture with a server that, compared with prior approaches to networking, is "much more discriminating as to what data is provided to each client[]"—sending position and state information only for certain user avatars. *Id.,* 3:41–44. Then, to potentially reduce processing burdens, a client in the novel computer network architecture determines which remote user avatars to display (which is "needed in some cases to ensure that neither client [ ] nor user [ ] get over-whelmed by the crowds of avatars likely to occur in a popular virtual world."). *Id.,* 5:65–67, 5:33-35.

The Federal Circuit has addressed similar claims necessarily rooted in computer technology in *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc*., 880 F.3d 1356 (Fed. Cir. 2018). There, the asserted claims were "directed to an improved interface for computing devices, not to the abstract idea of an index." *Id*. at 1362. Rather than distilling the technical invention down to an abstract idea achieved by the computer device's interface (*i.e*., an index), the Federal Circuit recognized that the claims were "directed to a particular manner of summarizing and presenting information in electronic devices." *Id*. The Court interpreted this concept as "a specific manner of displaying a limited set of information to the user, rather than using conventional user interface methods to display a generic index on a computer." *Id*. at 1363. The Federal Circuit also looked to the specification of the patent-at-issue, noting that the "claims disclose an improved user interface for electronic devices, particularly those with small screens." *Id*. After discussing numerous improvements in speed and efficiency resulting from the claimed invention, the Federal Circuit concluded that the "claims are directed to an improvement in the functioning of computers,

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particularly those with small screens" and held that the claims satisfied step one of *Alice*. *Id.*

According to this reasoning, the Worlds claims satisfy step one of *Alice*. First, *Core Wireless* confirms that solutions to technical limitations in electronic devices are patent-eligible. That patent-at-issue was directed to solving user interface complexities for devices with small screens by limiting the lists of commonly-accessed functions available to the user through a main menu. *Id.* Similarly, the Worlds patents are directed to solving the network and processing requirements for client devices accessing an online virtual world by providing two opportunities to limit the data that is rendered by a client computer. Just as a small-screen device in *Core Wireless* might benefit the most from the invention at issue there, an aged or overburdened processor in a client computer might benefit the most from the Worlds patents.

Second, the Federal Circuit refused to interpret the claims as an "'abstract idea' for which computers are invoked merely as a tool." *Id.* at 1362 (citing *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016)). Although LG asked the Court to interpret Core Wireless's invention as the "generic idea of summarizing information" with a computer invoked as a tool, the Federal Circuit recognized that the claims were "directed to a particular manner of summarizing and presenting information in electronic devices." *Id.* Similarly, Worlds' claims are not merely directed the abstract idea of filtering information using a computer.

Now, Activision asks this Court to view the Worlds claims as directed to "filtering" as "a basic method of organizing human activity that is well-known." Mem. at 1. This assertion is divorced from any reasonable interpretation of the asserted claims. Just as there is no real-world equivalent to the patent-at-issue in *DDR*, there is no real-world equivalent to a client process that becomes sluggish or crashes due to the processing and network loads created by a large number of other user avatars inhabiting a virtual world. Indeed, the concept of allowing users to interact in a

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virtual world specifically arises in the realm of networked computers. Thus, it is incorrect to view the Worlds patents as performing a pre-internet business or technique over the internet. *See DDR*, 773 F.3d at 1257 (finding claims patent-eligible where "they do not merely recite the performance of some business practice known from the pre-Internet world along with the requirement to perform it on the Internet.").

Core Wireless is comparable to another case involving a patent directed to a flexible solution for interacting with hardware of varying capabilities. In *Visual Memory LLC v. NVIDIA Corp.*, 867 F.3d 1253 (Fed. Circ. 2017), the patent-at-issue was directed to an improved memory system that could be tailored to different processor types. *Id.* at 1259. This patent-eligible solution "obviated the need to design a separate memory system for each type of processor." *Core Wireless*, 880 F.3d at 1362 (citing *Visual Memory*, 867 F.3d at 1259). Under this reasoning, there are clear parallels to Worlds' claims, which set forth a computer network architecture having flexible protocols to enable client devices with varying capabilities to manage network and processing loads while accessing a largely-populated, online 3-D virtual world.

Finally, while the operating principles of the computer network architecture claimed in Worlds' patents results in the display of avatars in a virtual world, displaying an end-result is not fatal to their eligibility, contrary to Activision's argument otherwise. *See* Mem., 12-13. The Federal Circuit has held as patent-eligible a process that "uses a combined order of specific rules that renders information into a specific format that is then used and applied to create desired results: a sequence of synchronized, animated characters." *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1315 (Fed. Cir. 2016). Once again, this reasoning leads to clear parallels with the Worlds patents, which also implement an improved computer network architecture to create desired results: a virtual world populated by three-dimensional graphical representations of other users.

Like in *DDR*, Worlds' claims "specify how interactions with [clients and servers] are manipulated to yield a desired result—a result that overrides the routine and conventional sequence of events ordinarily [involved in client-server architecture]." *DDR*, 773 F.3d at 1258. Where a conventional client-server architecture would broadcast all avatar position and state information to all users, the asserted claims provide a computer network architecture that minimizes network loads, allows for processing burdens to be reduced, and improves the user experience. Like the asserted claims in *DDR, Core Wireless, Visual Memory, McRo,* and their progeny, the asserted Worlds claims are not directed to an abstract idea under step one of *Alice* and are patent-eligible under § 101.

C.   Activision has not proven that the asserted claims are patent-ineligible.

i.   Activision oversimplifies the asserted claims while alleging them to be directed to nothing more than "filtering."

Activision argues that "each claim is directed to the abstract idea of filtering position information in a computer network, *i.e.*, crowd control." Mem. at 10. Activision also asserts that "the very notion of filtering to process information or resolve crowd control problems is a basic method of organizing human activity that is well-known," (*id*. at 1), and that "the fundamental concept of filtering people to maintain crowds below a maximum capacity … has been known and used to effectively manage human behaviors and interactions." *Id*. at 2. But as already explained above, there is no real-world comparison to Worlds patented invention.[6]

The Federal Circuit has warned that "any claim can be stripped down, simplified, generalized, or paraphrased to remove all of its concrete limitations, until at its core, something that could be characterized as an abstract idea is revealed." *Ultramercial, Inc. v. Hulu, LLC*, 722 F.3d 1335, 1344 (Fed Cir. 2013). Therefore, "[a] court cannot go hunting for abstractions by ignoring the concrete,

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[6] Activision's air traffic control analogy is also unrealistic. *See* Mem. at 1-2. What aviation community would use an air traffic control system that omits the positions of other planes?

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palpable, tangible limitations of the invention the patentee actually claims." *Id.* Activision violates this tenet, and inaptly compares the Worlds claims to "taking reservations, distributing access tickets or passes, or allowing entry on a first come, first served basis." Mem. at 2. But the Worlds claims are not directed to a computerized method for taking reservations, distributing access tickets or passes, or allowing entry on a first come, first served basis, or even to a method for restricting access to a virtual world once the virtual world is fully occupied.

Rather, the asserted claims enable a client to determine a displayable set of other user avatars from among the reduced number of avatars sent by the server in the virtual space according to that particular client's processing and network capabilities. Confirming this technically-focused solution, the asserted claims do not claim filtering data in the abstract, or even filtering data using a computer, but instead claim the protocols of a computer network architecture that uses culling of 3-D avatars in a virtual world both by a server and on a client-by-client basis.

Moreover, Activision acknowledged these protocols during claim construction, and even based its arguments around them. At Activision's urging, the Court held that the asserted '501 and '998 Patent claims are limited to a defined interaction between a client and server, as the avatar positions that a server sends to a client relate to "a condition set by the client." Dkt. 153 at 14-18. Activision now chooses to ignore these requirements in its step one analysis. These limitations show that the claims are not directed to abstract data "filtering," but to how the claim elements implement an improved client-server computer network architecture for user interactions in a virtual world. These particular recitations regarding how "filtering" is used and applied to improve processing in the systems shows that the claims do not preempt all "filtering" using a computer, or even "filtering" in systems implementing 3-D avatars in a virtual world.

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ii.   Activision misapplies § 101 case law

The only precedential Federal Circuit case cited by Activision in its step one argument is *Electric Power v. Alstom* (Mem. at 12), but this case is easily distinguished. Activision relies generally on *Electric Power* to argue that "claims directed to collecting, analyzing, and displaying data—even on a computer—are not patent eligible." *Id.* But the Federal Circuit itself recognized that *Electric Power* found those claims patent-ineligible because they "were drawn to using computers as tools to solve a power grid problem, rather than improving the functionality of computers and computer networks themselves." *SRI Int'l, Inc. v. Cisco Sys., Inc.*, 930 F.3d 1295, 1304 (Fed. Cir. 2019) (citing *Electric Power,* 830 F.3d at 1354).

Like the patent-at-issue in *SRI*, the Worlds claims "actually prevent the normal, expected operation of a conventional computer network." *SRI Int'l*, 930 F.3d at 1304. Rather than broadcasting all avatar positions from a server to a client, the server limits what avatar data is sent to the client, and the client process includes an intervening step of determining whether to display all received avatars, even if the received avatar positions would otherwise display the associated avatar in the client process's field of view. This is not the normal, expected operation of a conventional client process. Instead, this counterintuitive solution, which is designed to bring remote users together in the virtual space even where individual network and processing limitations might otherwise be exceeded, is directed toward "improving the functionality of computers and computer networks themselves." *Id*.

Activision's other citations are accompanied by inapposite analysis. *Fuzzysharp Techs. Inc. v. Intel Corp.*, 2013 WL 5955668 (N.D. Cal. Nov. 6, 2013), which was decided pre-*Alice* and did not include a full two-step *Alice* analysis, addressed a patent directed to improving the rendering of 3D objects by performing visibility calculations only for surfaces that were neither totally visible nor totally hidden. 2013 WL 5955668 at **5-6. While *Fuzzysharp* found the reduction of calculations to be abstract and therefore patent-ineligible, Activision misleadingly characterizes the patent's

omission of unnecessary calculations as "filtering." Mem. at 12. Additionally, *Fuzzysharp* was decided based on the pre-*Alice* machine-or-transformation test, which is unduly restrictive. *See DDR*, 773 F.3d at 1258–59 (holding that software claims were patent eligible without applying the machine-or-transformation test). In any event, Worlds' innovation effected a fundamental improvement to computer network architecture protocols for providing large-scale, avatar-based user interaction in a virtual space, and not just a mathematical efficiency.

Activision also relies on *Intellectual Ventures II LLC v. JP Morgan Chase & Co.*, 2015 WL 1941331, at *11 (S.D.N.Y. April 28, 2015), which involved the "process of organizing information through mathematical correlations." Those claims did not satisfy § 101 because they "fail[ed] to describe the claimed process at any level of specificity." *Id.* The court contrasted *DDR*, which "recited specific steps to accomplish the desired result of retaining website traffic." *Id.* Further, the *DDR* claims taught an innovation that "change[d] [ ] the standard structure of the internet and [created] a new composite web page." *Id.* Activision does not attempt to distinguish Worlds' claims from those in *DDR;* the Worlds claims recite several specific operating principles for a computer network architecture that provides a novel approach for user interaction in a virtual world among multiple users having unknown and potentially varying processing and network capabilities. This entails substantially more than organizing information using mathematical correlations.

While Activision no longer relies upon the patent-at-issue in *BASCOM Glob. Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016), it is important to note that the Worlds claims are distinct at the step one analysis from that patent. In *BASCOM*, the Federal Circuit found that the claims-at-issue were directed to "'a method and system for filtering Internet content.'" *Id*. at 1348 (quoting the specification of the patent-at-issue). The claims in *BASCOM* taught a method of censoring internet content for, *e.g*., shielding children from explicit materials. *Id*. at 1346. Among

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other reasons, Worlds' patents are different because in *BASCOM* there was a real-world analogue for parental and library-based censorship. Here, Activision cannot identify any real-world analogue to Worlds' identified problem or claimed solution, neither of which has meaning outside of network computing. *BASCOM* is inapposite.

Because the Worlds claims satisfy step one of *Alice*, the Court should deny Activision's § 101 challenge.

II.   Step Two: The Asserted Claims Include an Inventive Concept

Irrespective of how the Court characterizes the asserted claims, the claims also satisfy § 101 because they "contain[] an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Alice*, 573 U.S. at 211. Activision ignores that the Federal Circuit has found even claims directed to "filtering" as patent-eligible where they recite "an inventive concept through the system's distributed architecture." *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1302-05 (Fed. Cir. 2016); *see also BASCOM*, 827 F.3d at 1345, 1349-52.

A.   Under step two, an inventive application of an abstract idea satisfies § 101.

Claims directed to an abstract idea are patentable where they contain an "inventive concept" "that is sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself." *Alice*, 573 U.S. at 217-18 (citations omitted). Courts must assess the elements of the asserted claims both "individually" and "as an ordered combination" to "determine whether the additional elements [beyond the abstract idea] transform the nature of the claim into a patent-eligible application." *Id.* at 217 (citations omitted). "The [ ] inquiry is whether a claim, as a whole, includes meaningful limitations restricting it to an application, rather than merely an abstract idea." *Ultramercial*, *Inc. v. Hulu*, 722 F.3d 1335, 1344 (Fed. Cir. 2013). While merely using a computer to implement an abstract idea is not an inventive concept under § 101, claims can be found patent-eligible where they "do not merely

recite the abstract idea … along with the requirement to perform it on the Internet, or to perform

it on a set of generic computer components." *BASCOM*, 827 F.3d at 1350-51 (collecting cases).

Finally, the step two inquiry under § 101 is more onerous than the anticipation and

obviousness tests under §§ 102 and 103. As the party seeking summary judgment of ineligibility,

Activision must show by clear and convincing evidence that the inventive concepts in Worlds' patents

were "well-known" or "conventional." *Berkheimer,* 881 F.3d at 1368. It fails to do so.[7]

B.   Worlds' patents teach a specific approach to a computer network architecture that includes an inventive concept.

Activision's motion completely fails to address whether the elements of the asserted claims

include an "inventive concept" when considered "as an ordered combination." *See* Mem. at 13-16,

19-20. This alone would be fatal to its Motion, but Activision also fails to address intervening law on

step two of *Alice*, and buries the outcome from *BASCOM* in a footnote. *See* Mem. at 11 n.6.

In its original motion under § 101, Activision relied upon the District Court's decision that

BASCOM's claims were directed to patent-ineligible subject matter and drew comparisons between

Worlds' Patent claims and *BASCOM*'s claims. Dkt. 175 at 15. On appeal, the Federal Circuit reversed

that decision, holding instead that BASCOM's claims were patent-eligible under step two of *Alice*.

BASCOM, 827 F.3d at 1352. Now, Activision's renewed Motion is noticeably and awkwardly silent

regarding the Federal Circuit's reversal in *BASCOM*.

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[7] Activision's attempt to leverage the USPTO's *inter partes* review proceedings ("IPRs"), including three *vacated* decisions, has no bearing on this question. *See* Mem. at 3-4. As Activision admits, eligibility was not at issue in the IPRs. *Id*. at 3 n.1. Additionally, as reflected in Worlds' objection to Activision's Statement of Undisputed Material Facts, the vacated PTAB decisions have no precedential effect and should be disregarded. *See County of Los Angeles v. Davis*, 440 U.S. 625, 634 n. 6 (1979) ("Of necessity our decision `vacating the judgment of the Court of Appeals deprives that court's opinion of precedential effect . . . .'") (quoting *O'Connor v. Donaldson*, 422 U.S. 563, 577-78 n. 12 (1975)).

In *BASCOM*, the Federal Circuit confirmed that an inventive concept, searched for under step two of the *Alice* test, "may arise in one or more of the individual claim limitations or in the ordered combination of the limitations." *Id*. at 1349. Further, an "inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces." *Id*. at 1350. In the BASCOM patent, the inventive concept was "the installation of a filtering tool at a specific location, remote from the end-users, with customizable filtering features specific to each end user." *Id*. The Federal Circuit further found that, on that record, "this specific method of filtering Internet content cannot be said, as a matter of law, to have been conventional or generic." *Id*.

Like the patent-at-issue in *BASCOM*, the Worlds claims "do not merely recite the abstract idea of filtering content along with the requirement to perform it on the Internet, or to perform it on a set of generic computer components." *Id*. Further, the Worlds patents "describe[ ] how its particular arrangement of elements is a technical improvement over prior art ways of" managing avatars in a virtual space. *Id*. This was a problem existing solely in computer technology, just as BASCOM's and DDR's patents were.

Activision also overlooks the evidence that establishes that the claim elements, viewed as an *ordered combination*, disclose an inventive concept. The asserted claims *as a whole* teach a multistep process whereby a server receives position information of avatars associated with network clients; the server filters the received positions and then sends selected packets to each client; the client, in turn, can further determine which avatars to display. That combination was inventive and not overbroad. Indeed, per the three valid final written decisions issued by the PTAB, claims 4, 8, 13, and 16 of the '690 Patent, claims 5 and 7 of the '558 Patent, and claim 18 of the '998 Patent were confirmed as *patentable* over Bungie's prior art challenges. Exs. F, G, H. Activision cannot refute this evidence, and produces no contrary evidence that the *ordered combination* of elements in any asserted claim,

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including the claims of the '856 and '501 Patents, was well-understood, routine, and conventional. Mem. at 13-16, 19-20. This is fatal to Activision's Motion.

In addition to the PTAB's findings that the asserted claims of the '690 Patent, '558 Patent, and '998 Patent are patentable in their ordered combinations, the individual elements of the asserted claims also qualify as inventive concepts. Activision attacks the individual elements of certain claims, but its evidence that Worlds' claimed invention can be carried out by conventional computer hardware, software, and functions is substantially limited to Worlds' patent specifications. *Id*. at 13-16. Worlds' specification discloses a client system 60, which could be a conventional desktop computer, executing a "graphical rendering engine which generates the user's view of the virtual world." *Id*. at 15 (quoting Ex. 1 at 3:47-4:48). Activision incorrectly contorts this statement into an admission that Worlds' invention "can be carried out using known and conventional computer hardware, software, and functions." *Id*. Nothing in this quoted portion of Worlds' specification establishes that Worlds' claimed inventions, including the operating protocols of the computer network architecture that can be run as software, were well-understood at the time of filing. *Id*.

Moreover, the ability of an invention to run on a general-purpose computer does not "doom[] the claims." *Enfish*, 822 F.3d at 1338. This would be tantamount to a wholesale ban on software-based inventions, which the Federal Circuit has rejected. *Id*. (citing *Bilski v. Kappos*, 561 U.S. 593, 603-04 (2010)). Indeed, the Worlds invention was developed to enable even legacy computers, with limited processing power and network capabilities, to interact in a multi-user virtual space. Ex. A ('690 Pat.), 3:41-46, 5:29-67.

Activision also urges the Court to ignore "avatar customization, view shifting, and interaction rooms" from the '501 and '998 Patents as "extra-solution manipulations of the filtered data." Mem. at 19 (citation omitted). Even though these claims were issued by USPTO (*see* Exs. J, K), Activision

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asks the Court to conduct a truncated obviousness inquiry under § 103 based on isolated examiner statements, contrary to the higher standard needed to show what is well-understood, routine, and conventional. *See Exergen Corp. v. KAZ USA, Inc.*, 725 F. App'x 959, 965 (Fed. Cir. 2018) (non-precedential) (something is not necessarily well-understood, routine, and conventionally used in the art simply because it is disclosed in an obscure prior art reference). Activision also makes no showing that a server enforcing client-side "conditions"/"participant conditions" (*see* '501 Pat., Cl. 1, '998 Pat., Cl. 18), which affect server-selected avatar updates for transmission, was well-known, routine, or conventional.

As a result, Activision lacks evidence, much less clear and convincing evidence, to establish that the computer network architectures claimed in the Worlds' patents lack an inventive concept.

C.   The asserted claims do not preempt any abstract idea.

Finally, preemption is of no concern. Contrary to Activision's hyperbole, Worlds' claims do not preempt "***any*** scenario in which there is ***some*** filtering of information." Mem. at 10 (emphasis in original). The asserted claims include significant limitations—including that the claims apply only to the culling of "avatars," which the Court interpreted as a "three-dimensional representation of a user." There is no risk of the claims preempting the abstract idea of filtering. *See BASCOM*, 827 F.3d at 1352.

CONCLUSION

For these reasons, Worlds' asserted claims are patent-eligible, and Worlds respectfully asks that the Court deny Activision's Motion for Summary Judgment.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that this document filed through the ECF systems will be sent electronically to the registered participants as identified on the Notice of Electronic Filing on the above date.

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